

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1 (Currently amended). A method for attenuating the virulence of a ~~microbial~~ bacterial pathogen or for inhibiting or reducing colonization by a ~~microbial~~ bacterial pathogen in a patient in need thereof, comprising administering to the patient in need an effective amount of c-di-GMP or a cyclic dinucleotide to attenuate the virulence of, or to inhibit or reduce colonization by, the ~~microbial~~ bacterial pathogen.

2 (Currently amended). The method of claim 1, wherein the attenuation of the virulence of a ~~microbial~~ bacterial pathogen comprises treating a bacterial infection.

3 (Original). The method of claim 2, wherein said bacterial infection is a *Staphylococcus aureus* infection.

4 (Original). The method of claim 2, wherein said bacterial infection is mastitis, a *Staphylococcus aureus* infection of the mammary gland.

5 (Currently amended). The method of claim 2, wherein said bacterial infection is treated by inhibiting microbial biofilm formation or by reducing the ~~microbial~~ bacterial biofilm already formed.

6 (Previously presented). The method of claim 5, wherein said effective amount of c-di-GMP is administered.

7 (Currently amended). The method of claim 6, wherein said ~~microbial~~ bacterial biofilm is *Staphylococcus aureus* biofilm.

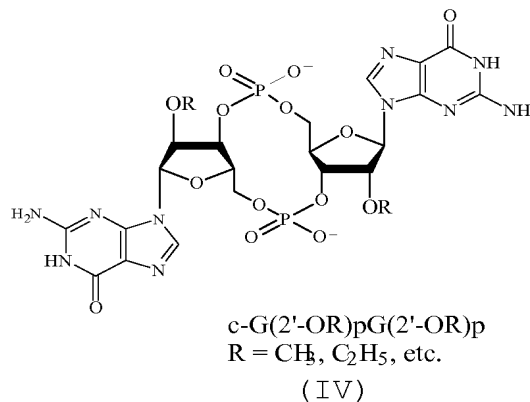
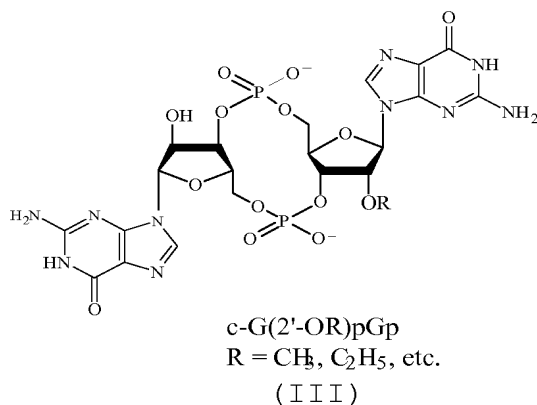
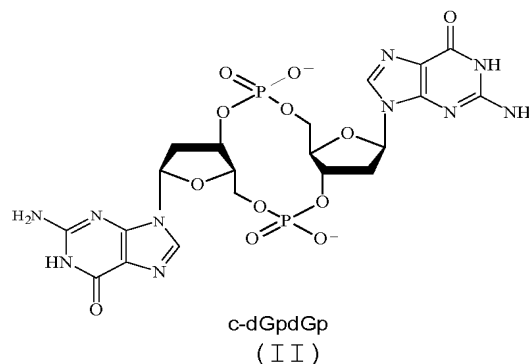
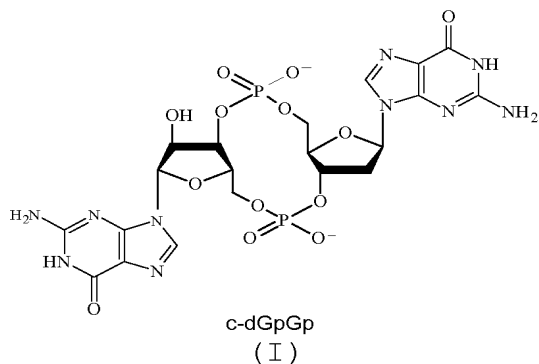
Claim 8 (Cancelled).

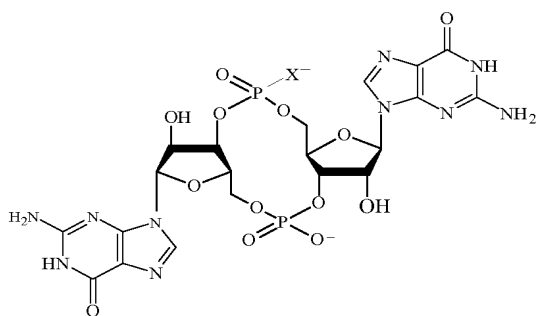
9(Currently amended). The method of claim ~~8~~ 5, wherein said ~~microbial~~ bacterial biofilm is *Vibrio cholerae* biofilm or *Salmonella enteritidis* biofilm.

10(Currently amended). The method of claim 5, wherein said ~~microbial~~ bacterial biofilm is on the skin or on a nasal or mucosal surface.

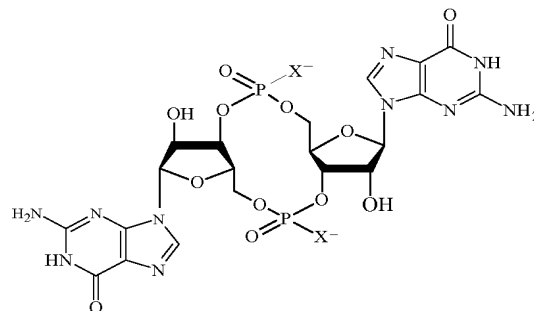
11(Original). The method of claim 2, further comprising administering an antibiotic compound which is effective in treating said bacterial infection.

12(Previously presented). The method of claim 1, wherein said cyclic dinucleotide is selected from the group consisting of cyclic dinucleotides

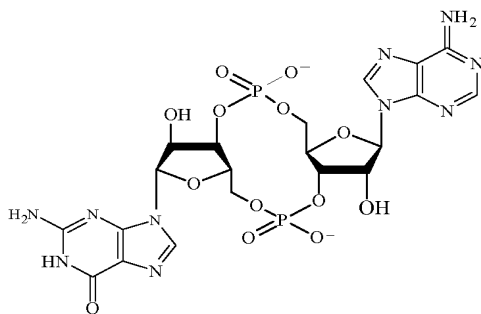




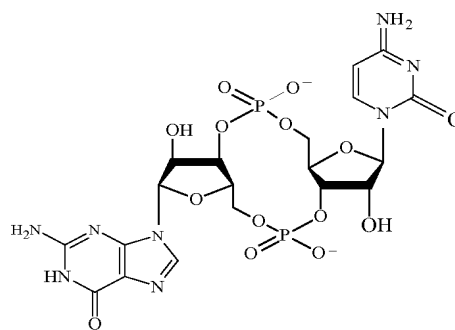
c-GpXGp  
X = S, Se, BH  
stereochemically pure  
(V)



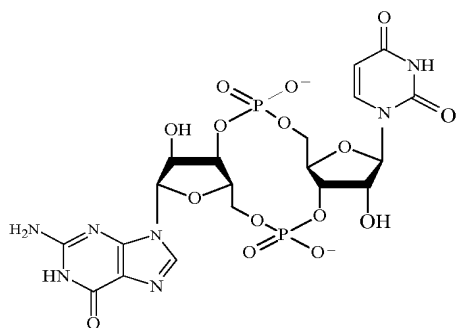
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X = S, Se  
stereochemically pure  
(VI)



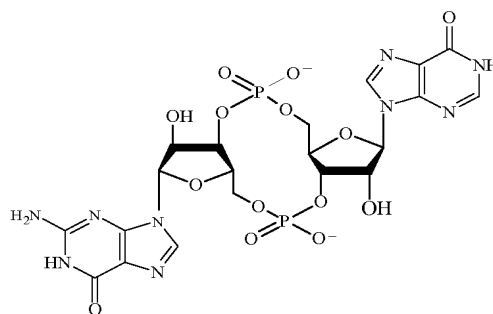
c-GpAp  
(VII)



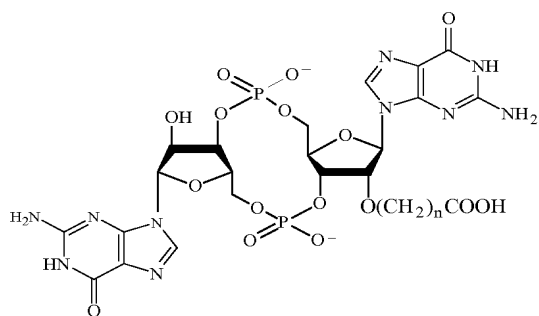
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(VIII)



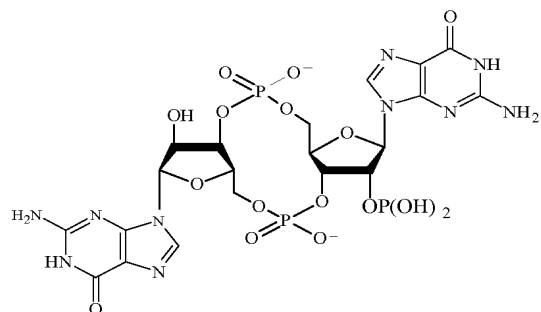
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(IX)



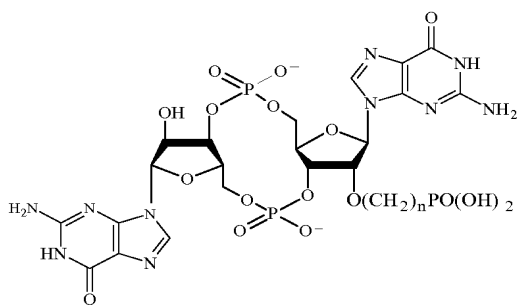
c-GpIp  
(X)



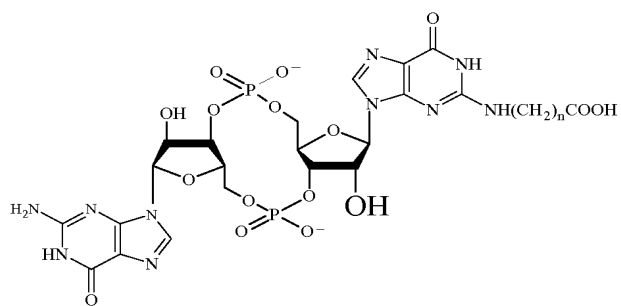
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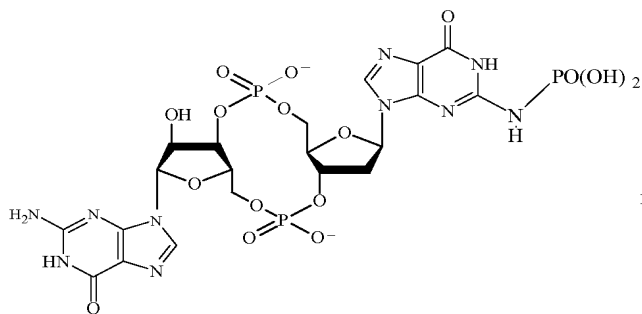
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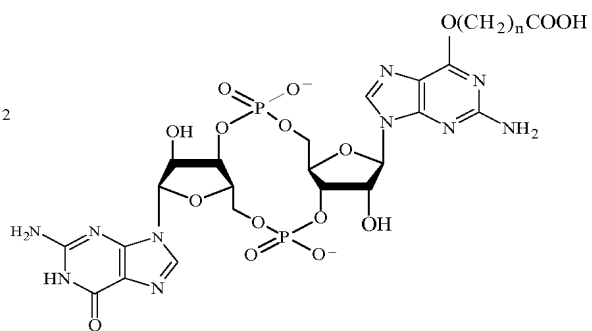
(XIII)



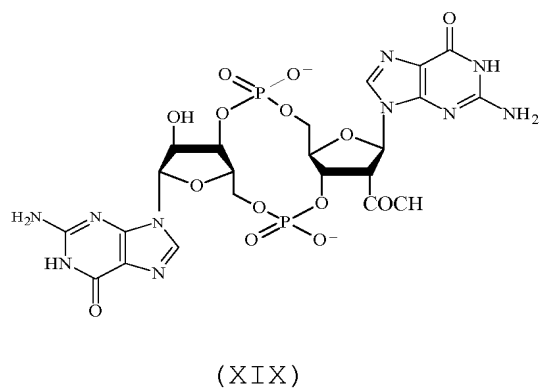
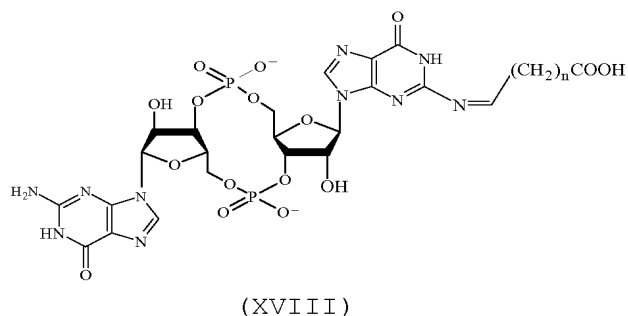
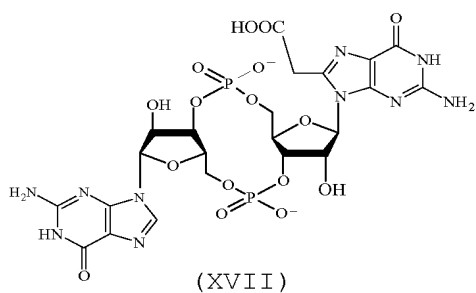
(XIV)



(XV)



(XVI)



13(Currently amended). The method of claim 1, wherein the inhibition or reduction of colonization of a ~~microbial~~ bacterial pathogen comprises treating a patient at risk of being colonized by a ~~microbial~~ bacterial pathogen or a patient already colonized by a ~~microbial~~ bacterial pathogen.

14(Currently amended). The method of claim 13, wherein the colonization of a ~~microbial~~ bacterial pathogen that is inhibited or reduced is on the skin or on a nasal or mucosal surface.

15(Currently amended). The method of claim 13, wherein said ~~microbial~~ bacterial pathogen is *Staphylococcus aureus*.

16(Original). The method of claim 13, wherein said patient is a carrier of *Staphylococcus aureus*.

17(Previously presented). A method for inhibiting bacterial colonization and biofilm formation or for reducing colonization and pre-formed bacterial biofilm on a solid surface, comprising exposing the solid surface to an effective amount of c-di-GMP or a cyclic dinucleotide to inhibit bacterial colonization and biofilm formation or to reduce bacterial colonization and pre-formed biofilm on said solid surface.

18(Original). The method of claim 17, wherein said solid surface is a solid surface of a medical device.

19(Original). The method of claim 18, wherein said medical device is implantable in or capable of attaching to a patient.

20(Original). The method of claim 18, wherein said medical device is implanted in a patient or otherwise in contact with a patient.

21(Previously presented). The method of claim 17, wherein the bacterial colonization and biofilm is *Staphylococcus aureus* colonization and biofilm and said solid surface is exposed to said effective amount of c-di-GMP .

Claims 22-27 (Cancelled).

28(Previously presented). The method of claim 1, wherein said patient in need thereof is a mammal.

29(Previously presented). The method of claim 1, wherein said patient in need thereof is human.

30(Previously presented). The method of claim 1, wherein said patient in need thereof is a bird.